liquid whole egg, and any combination of any of these in any proportion. Besides the natural liquid egg component(s), the egg-based substance may optionally include other egg component(s), such as powdered or concentrated egg solids, including powdered or concentrated egg whites, powdered or concentrated egg yolks, any combination of any of these in any proportion, and any aqueous solution of any of these. These optional egg components may be used in combination with any natural liquid egg component(s) in any proportion. Beneficially, however, the egg-based substance may contain only egg component(s) that are natural liquid egg component(s) to maximize the beneficial organoleptic properties contributed by the natural liquid egg component(s) to the cooked egg-based product and to derivatives of the cooked egg-based product, such as the fried egg-based product.

The collective concentration of the natural liquid egg component(s) in the egg-based substance may generally range from about 65 weight percent to about 99.5 weight percent, and in some embodiments may range from about 97 weight percent to about 99.5 weight percent, based on the total weight of the egg-based substance, when the liquid dairy material(s) mentioned below are excluded from the egg-based substance. However, the collective concentration of the natural liquid egg component(s) in the egg-based substance may generally range from about 45 weight percent to about 99.5 weight percent, and in some embodiments may range from about 75 weight percent to about 99.4 weight percent, based on the total weight of the egg-based substance, when the liquid dairy material(s) mentioned below are included in the egg-based substance.

Besides the egg component(s), optional ingredients, such as fat(s), stabilizing agent(s), liquid dairy material(s), flavoring agent(s), coloring agent(s), added water, and any combination of any of these in any proportion may optionally be incorporated in the egg-based substance. As an example, the optional ingredient(s) may be included in the egg-based substance for purposes of modifying the flavor, texture, appearance and/or cost of the cooked egg-based product and/or derivatives of the cooked egg-based product. As a further example, the optional ingredient(s) may be included in the egg-based substance for purposes of modifying in-process characteristics of the egg-based substance and/or the egg-based material.

As noted, fat(s) may optionally be included in the egg-based substance. Any fat(s) that are employed are typically included for purposes of modifying the texture and/or taste of the cooked egg-based product and/or derivatives of the cooked egg-based product. As used herein, the term "fat" refers to compositions that are primarily, or fully, made of one or more fatty acids, and glycerides thereof, of all types, no matter whether the composition is a liquid (i.e. "oil") at room temperature or is a solid (i.e.: "fat") at room temperature, or is a semi-solid (mixture of oil and fat) at room temperature.

The optionally included fat(s) may be or include either dairy fat(s), such as butterfat (also known as butter oil); non-dairy fat(s); or any combination of any dairy fat(s) and non-dairy fat(s) in any proportion. The non-dairy fat(s) may be any conventional, shelf stable, non-dairy fat(s), non-dairy oil(s), or any mixtures thereof from either plant (vegetable), animal, or marine sources. A non-exhaustive list of suitable plant fats includes corn oil, peanut oil, soybean oil, canola oil, olive oil, sunflower oil, safflower oil, cottonseed oil, coconut oil, palm oil, palm kernel oil, and any of these in any combination and in any proportion. The optional fat, if included in the egg-based substance, preferably is corn oil or soybean oil. If included in the egg-based substance, the collective concentration of the fat(s) in the egg-based substance may generally range from about 0.1 weight percent to about 10 weight percent, based on the total weight of the egg-based substance.

Non-exhaustive examples of suitable optional stabilizing agents include various starches, various gums, various starch-like plant extracts and materials, and any combination of these in any proportion. Exemplary starches include cereal starch, tuber starch, any other plant starch (such as sago starch, for example), or any combination of any of these in any proportion. Some non-exhaustive examples of suitable cereal starches include corn starch, wheat starch, rice starch, waxy maize starch, sorghum starch, waxy sorghum starch, seed starch and any combination of any of these in any proportion. Some non-exhaustive examples of suitable tuber starches including potato starch, arrowroot starch, tapioca starch, and any combination of these in any proportion. Some non-exhaustive examples of suitable gums include arabic gum, tragacanth gum, karaya gum, ghatti, guar gum, locust bean gum, xanthan gum, gellan gum, tamarine gum, agar-agar gum, furcellaran gum, gum acacia, and any combination of any of these in any proportion. Some non-exhaustive examples of suitable plant extracts include pectin, arabinogalacton, psyllium, quince seed, alginates, carrageenans, and any combination of these in any proportion. One non-exhaustive suitable example of other starch-like plant materials is cellulose. Alternatively, certain animal materials with starch-like characteristics, such as gelatin, albumin, casein, soy protein, any combination of any of these in any proportion, and any combination of any of these with any starch and/or gum in any proportion may also be used as the optional stabilizing agent.

The egg-based substance beneficially may include the optional stabilizing agent to modify (enhance) the viscosity of the egg-based substance and provide the cooked egg-based product and/or derivatives of the cooked egg-based product with a smoother, shorter texture. The optional stabilizing agent generally should have a relatively high degree of freeze-thaw stability that allows the optional stabilizing agent to impart freeze-thaw stability to products that incorporate the cooked egg-based product and/or derivatives of the cooked egg-based product. To achieve or enhance these viscosity, textural, and freeze/thaw stability properties, starch that is used as all or part of the optional stabilizing agent may optionally be physically-modified, chemically-modified, and/or enzymatically-modified, as desired. Furthermore, the starch that may form all or any portion of the optional stabilizing agent may generally be gelatinized (pre-gelled) starch, non-gelatinized (cookup or non-gelatinized) starch, or any combination of these in any proportion. Beneficially, the optional stabilizing agent will generally be in a form, such as a powdered form, that allows homogenous and uniform dispersion of the optional stabilizing agent throughout the egg-based substance.

In one embodiment, the egg-based substance includes xanthan gum, and may include a combination of xanthan gum and a modified, waxy maize cookup starch, as the stabilizing agent(s). If included in the egg-based substance, the concentration of xanthan gum in the egg-based substance may generally range from about 0.01 weight percent to about 0.5 weight percent, based on the total weight of the egg-based substance, with concentrations of xanthan gum in the egg-based substance ranging from about 0.125 weight percent to about 0.2 weight percent, based on the total weight of the egg-based substance, being employed in some embodiments. If included in the egg-based substance, the concentration of the modified, waxy maize cookup starch in the egg-based substance may generally range from about 0.1 weight percent to about 1 weight percent, based on the total weight of the